

Listing of Claims/Amendments to the Claims.

The list of claims that follows will replace all prior versions in the application.

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Currently Amended) A multi-dimensional programming device, comprising: an object file unit storing object information for creating a multi-dimensional horizontally written flowchart, an object editing unit for using object information read from said object file unit to edit said multi-dimensional flowchart, a drafting unit for drafting said edited multi-dimensional flowchart, and a saving unit for saving said edited multi-dimensional flowchart in said object file unit, said object information including program flowchart symbol information, coordinate information, cell information and character information, said coordinate information including a combination of ~~at least one of~~ (i) a time axis, a data axis and a control axis, (ii) the time axis, the data axis, the control axis and a CPU axis, (iii) the time axis, the data axis, the control axis, the CPU axis and an event axis, (iv) the time axis, the data axis, the control axis, the CPU axis, the event axis and a condition axis, and (v) the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and a PC axis.

5. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein a screen is drafted with the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis as its coordinate information, and said screen is constructed and arranged such that a horizontal axis is used for the time axis and a vertical axis is used for the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

6. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein said object editing unit (i) makes programming space displayable on a screen by means of three-dimensional basic coordinates which use a horizontal axis for the time axis and a vertical axis for at least the data axis and the control axis, and (ii) performs editing of said screen according to an input command signal.

7. (Previously Amended) The multi-dimensional programming device according to claim 6, wherein said object editing unit enables dimensional switching to take a cross section of said programming space to reveal an inside portion of a program.

8. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein said object editing unit is constructed and arranged to make flat surfaces of draftable programming spaces into a group and to assign tabs to said flat surfaces in a screen construction in which the vertical axis represents the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

9. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein said object editing unit includes a function for at least one of shrinking and restoring said coordinate information by units of rows and columns.

10. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein said object editing unit includes a function for burying a given coordinates axis into another coordinates axis centered around the time axis throughout a programming space.

11. (Previously Amended) The multi-dimensional programming device according to claim 4, wherein said saving unit contains information associated with a horizontal

slit having one line of cell objects, and information associated with a flat surface object corresponding to said horizontal slit.

12. (Previously Presented) The multi-dimensional programming device according to claim 4, wherein said multi-dimensional horizontally written flowchart is at least one of a two-dimensional flowchart, a three-dimensional flowchart and a four-dimensional flowchart.

13. (Previously Presented) The multi-dimensional programming device according to claim 4, wherein said program flowchart symbol information includes a start terminator and an end terminator.

14. (Currently Amended) A multi-dimensional programming method, comprising the steps of: storing object information for creating a multi-dimensional horizontally written flowchart in an object file unit, reading object information from said object file unit, using said object information, editing said multi-dimensional flowchart, drafting said edited multi-dimensional horizontally written flowchart using a drafting unit, and, using a saving unit, saving said edited multi-dimensional flowchart into said object file unit, said object information including program flowchart symbol information, coordinate information, cell information and character information, said coordinate information including a combination of ~~at least one of~~ (i) a time axis, a data axis and a control axis, (ii) the time axis, the data axis, the control axis and a CPU axis, (iii) the time axis, the data axis, the control axis, the CPU axis and an event axis, (iv) the time axis, the data axis, the control axis, the CPU axis, the event axis and a condition axis, and (v) the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and a PC axis.

15. (Previously Presented) The multi-dimensional programming method according to claim 14, wherein said multi-dimensional horizontally written flowchart is at least one of a two-dimensional flowchart, a three-dimensional flowchart and a four-dimensional flowchart.

16. (Previously Presented) The multi-dimensional programming method according to claim 14, wherein said program flowchart symbol information includes a start terminator and an end terminator.

17. (Previously Presented) The multi-dimensional programming method according to claim 14, further comprising the steps of drafting a screen with the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis as its coordinate information, and using a horizontal axis for the time axis and a vertical axis for the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

18. (Previously Presented) The multi-dimensional programming method according to claim 14, further comprising the step of using said object editing unit to (i) make programming space displayable on a screen by means of three-dimensional basic coordinates which use a horizontal axis for the time axis and a vertical axis for at least the data axis and the control axis, and (ii) perform editing of said screen according to an input command signal.

19. (Previously Presented) The multi-dimensional programming method according to claim 18, further comprising the step of using said object editing unit to enable dimensional switching to take a cross section of said programming space to reveal an inside portion of a program.

20. (Previously Presented) The multi-dimensional programming method according to claim 14, further comprising the step of using said object editing unit to make flat surfaces of draftable programming spaces into a group and to assign tabs to said flat surfaces in a screen construction in which the vertical axis represents the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

21. (Previously Presented) The multi-dimensional programming method according to claim 14, wherein said object editing unit includes a function for at least one of shrinking and restoring said coordinate information by units of rows and columns.

22. (Previously Presented) The multi-dimensional programming method according to claim 14, wherein said object editing unit includes a function for burying a given coordinates axis into another coordinates axis centered around the time axis throughout a programming space.

23. (Previously Presented) The multi-dimensional programming method according to claim 14, wherein said saving unit contains information associated with a horizontal slit having one line of cell objects, and information associated with a flat surface object corresponding to said horizontal slit.